

**ABSTRACT OF THE DISCLOSURE**

In accordance with the present invention, there are provided solar water heaters that are portable, efficient, inexpensive and easy to use. In its simplest form, the solar heater includes a transparent container such as a bag or envelope that contains at least one energy converting structure and has sufficient insulation to enable heating water to a temperature of at least 60°C for a time sufficient to achieve pasteurization (typically a period of about one hour at this temperature), and preferably to a temperature of at least 70°C (at which temperature, a period of only about 6 minutes is required for pasteurization). Invention solar heaters are particularly useful for pasteurizing water. In additional embodiments, invention solar heaters include additional features, such as, for example, a water pasteurization indicator. In accordance with another embodiment of the invention, there are provided methods for pasteurizing water employing solar heaters described herein, as well as kits suitable to convert any transparent water tight container into a solar water heater.

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